

Building capacity and driving research excellence together

African Research Universities Alliance and UK Research and Innovation working together to address the Sustainable Development Goals



About ARUA

The African Research Universities Alliance (ARUA) was inaugurated in Dakar in March 2015, bringing together 15 of the region's leading universities. It is a network of universities from different countries and different historical backgrounds, but with a common vision. The network is generally about expanding and enhancing significantly the quality of research done in Africa by African researchers.

This new network, from inception, was intended to be different from any other regional university networks. The difference was to come largely from the approach to be employed, namely bringing together a number of peer African institutions that were willing to work together by pooling their own limited resources, with a view to generating a critical mass that could more effectively support their limited, but growing numbers of researchers. Underlying this was the conviction that they could thereby leverage this effectively for additional resources from outside.

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About UKRI

UK Research and Innovation works in partnership with universities, research organisations, businesses, charities, and government to create the best possible environment for research and innovation to flourish. It aims to maximise the contribution of each of its component parts, working individually and collectively. It works with our many partners to benefit everyone through knowledge, talent and ideas.

Operating across the whole of the UK with a combined budget of more than £7 billion, UK Research and Innovation brings together: the Arts and Humanities Research Council; Biotechnology and Biological Sciences Research Council; Engineering and Physical Sciences Research Council; Economic and Social Research Council; Innovate UK; Medical Research Council; Natural Environment Research Council; Research England; and Science and Technology Facilities Council.

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In an exciting new international partnership, the African Research Universities Alliance (ARUA) and UK Research and Innovation (UKRI) have joined-forces to use their collective knowledge, skills and regional expertise to tackle global challenges such as extreme poverty and disease, fragile states and displacement, gender inequalities and food insecurity.

This new partnership, formally agreed in October 2018, will see ARUA and UKRI work together over the next three years to build pan Africa-UK research collaborations across all disciplines to mobilise excellence and forge equitable partnerships with co-creation at their heart.

This partnership is part of UKRI's ongoing efforts through the Global Challenges Research Fund (GCRF) to build robust research systems across developing countries, enabling the best researchers from across the world to collaborate to find fair and sustainable solutions to the most pressing global issues that require global solutions – across nations and disciplines.

"This is a truly exciting research adventure between the UK and universities across Africa. Together we will create opportunities for talented researchers, from all disciplines, to share ideas and expertise and to co-create research to tackle some of the most pressing challenges we face and that will ultimately benefit all of us.

This partnership enables us to realise a key vision of GCRF – the creation of equitable partnerships. Equitable, fair and respectful partnerships are vital if we are to encourage the flow of great insights and innovative thinking to accelerate the most promising research and ultimately discover new solutions."

**Professor Andrew Thompson,
UKRI International Champion**



As part of this partnership, a new research programme has been developed, with two key strands: the Capacity Building strand with the ARUA Centres of Excellence (CoEs) aiming to build capacity at the 13 Centres, with UKRI providing up to £8M to the Centres and the Research Excellence strand which will support up to six joint research projects addressing aspects of the Sustainable Development Goals.

For more information about joint calls developed by ARUA and UKRI, visit: www.ukri.org/research/global-challenges-research-fund/arua-gcrf-pp-for-capacity-building



"The Africa Research Universities Alliance uses Centres of Excellence as the main instrument for research and graduate training collaboration among its members. Funding these innovative Centres is challenging so the UKRI support means everything to ARUA and its member universities. It is structured to allow ARUA to provide more than just core support to the 13 Centres of Excellence located at nine universities. The Global Challenges Research Fund will provide six grants of up to £2 million each for research in partnership between ARUA and UK Universities.

These grants will allow ARUA universities to play key roles in global research leadership. ARUA expects to draw lessons from the Centres of Excellence for its other research and teaching programmes in its bid to make African universities globally competitive. This partnership marks a new high in the support for African Higher Education."

Ernest Aryeetey, ARUA Secretary-General

A shared commitment to capacity building across Africa

ARUA and GCRF have a shared commitment to research that directly addresses the United Nations Sustainable Development Goals at a local, regional and international scale.

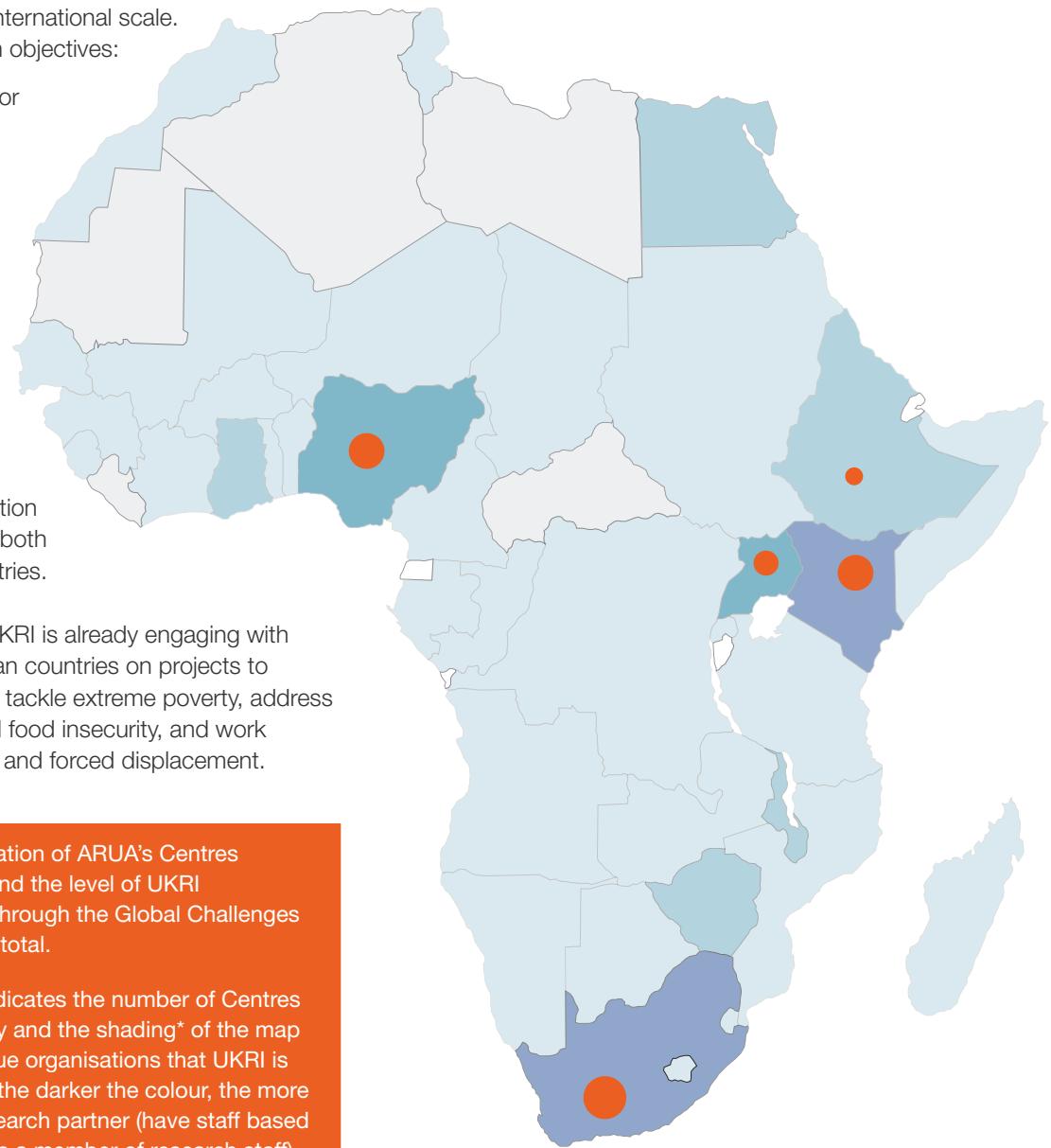
The partnership has three main objectives:

- To build significant capacity for science and research across African universities
- To provide opportunities for African research teams and GCRF grant-holders to co-create new projects that build on current investments by GCRF and ARUA
- To build equitable collaborations to strengthen capacity for research, innovation and knowledge exchange in both the UK and developing countries.

Through GCRF investments, UKRI is already engaging with researchers from over 43 African countries on projects to improve health and livelihoods, tackle extreme poverty, address environmental degradation and food insecurity, and work towards a resolution of conflict and forced displacement.

This heat map shows the location of ARUA's Centres of Excellence (orange dots) and the level of UKRI collaborations across Africa through the Global Challenges Research Fund – over 670 in total.

The size of the orange dot indicates the number of Centres of Excellence within a country and the shading* of the map indicates the number of unique organisations that UKRI is working with in that country (the darker the colour, the more organisations) as either a research partner (have staff based at the organisation working as a member of research staff) or a project partner (named as a project partner at the time of application).



*The shading on this map is illustrative only

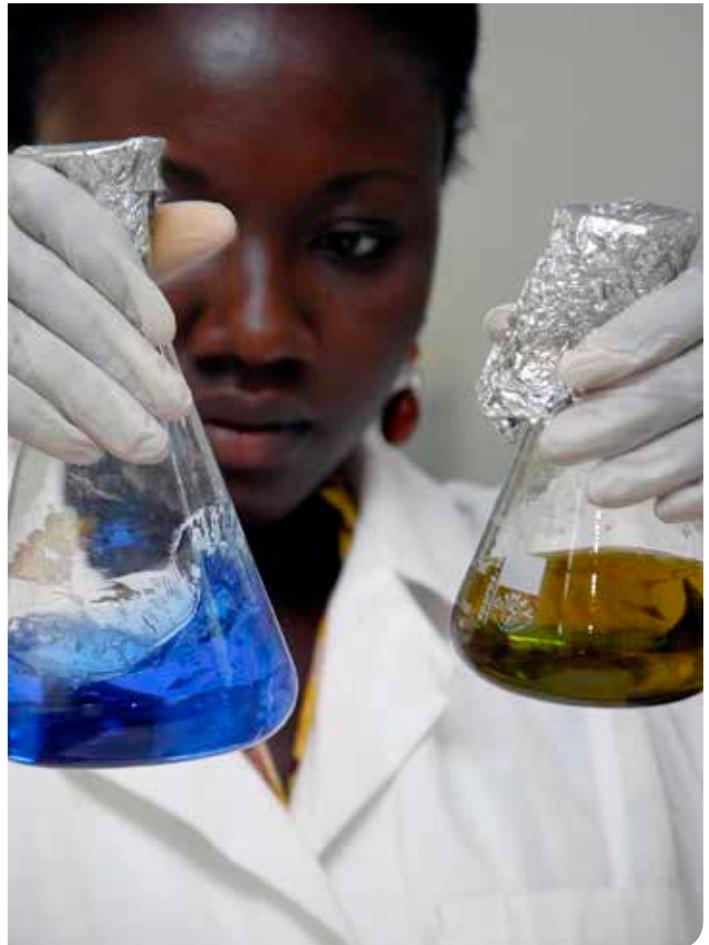
SUSTAINABLE DEVELOPMENT GOALS



ARUA's 13 Centres of Excellence are focal points for aggregating world class researchers from member universities to undertake collaborative research across priority themes. They also provide the opportunity for graduates from the region and beyond to work with experienced researchers, forming an assembly point for skilled researchers and students seeking to carry out cutting-edge research.

● ARUA's Centres of Excellence

Theme	University	Country
Climate Change	University of Cape Town	South Africa
Energy	Stellenbosch University	South Africa
Food Security	University of Pretoria	South Africa
Good Governance	Addis Ababa University	Ethiopia
Materials, Energy and Nanotechnology	University of the Witwatersrand	South Africa
Migration and Mobility	University of the Witwatersrand	South Africa
Non Communicable Diseases	University of Nairobi	Kenya
Notions of identity	Makerere University	Uganda
Post-conflict society	Addis Ababa University	Ethiopia
Poverty and inequality	University of Cape Town	South Africa
Unemployment and skills development	University of Lagos	Nigeria
Urbanization and Habitable Cities	University of Lagos	Nigeria
Water conservation	Rhodes University	South Africa



While this partnership between ARUA and UKRI has only recently been announced, through the GCRF there is already a plethora of excellent, development focused research, addressing multiple SDGs at a local, regional and international level being carried out by researchers from across the UK and Africa, some examples of which can be seen across these pages.

Prosocial gaming for the prevention of gender-based violence

The effects of violent video games are a contentious issue. A 2014 ‘study of studies’¹ came to some firm conclusions: when children play aggressive computer games they behave more violently; but when they play more socially conscientious games, their behaviour correspondingly improves. NONE IN THREE (Ni3) is a centre that is harnessing these findings to find new ways to address attitudes that fuel violence while they are being formed. Working with social scientists in low and middle income countries, as well as in the UK, Ni3 is conducting empirical studies on the socio-cultural drivers of gender-based violence and its impact, using the data to create video games that develop awareness and emotional intelligence (empathy and conflict resolution skills) and, crucially, change negative gender attitudes. The games are being designed as educational interventions for schools and other settings and once robust evaluation has been carried out, they will be promoted to communities and to governments. Ni3 works differently in each country based on the priorities set by the partner. In India, for example, the focus is on tackling the ways in which gender bias contributes to violence against women in private and public spaces. In Uganda the researchers are focusing on child marriage, an extensive problem in that country. In Jamaica, the team is working on preventing child sexual abuse and in the UK, violence within adolescent relationships.

This four-year project, started in 2017, is led by the University of Huddersfield and involves four international partners including Makerere University, Uganda.

¹ <https://doi.org/10.1177/0146167213520459>

Nurturing top scientists through GCRF-Crick African Network

The Francis Crick Institute in the UK, along with five leading African partner institutions, including Stellenbosch University and University of Cape Town, are seeking out the best post-doctoral researchers from across Africa to take part in an ‘African Career Accelerator’. This will include training opportunities at the Crick, to help establish research programmes back home in institutes to strengthen them as hubs of scientific excellence for the Continent; and mentoring via an international network.

The scientists chosen for this Accelerator will be those with ideas about how to tackle some of the big scourges of Africa – such as HIV, affecting an estimated 25 million people in the continent, TB and malaria. They will be empowered to come up with the insights and ideas to roll back these economically debilitating diseases.

Commenting on the four-year project, which started in 2017, Dr Gordon Awandare from the University of Ghana, a member university of ARUA, said; *“This grant responds directly to a critical need for us. Our postdocs will have this fantastic opportunity to link up with top scientists at the Crick, and get access to some of the best research facilities in the world. The best part is that this fellowship will keep our postdocs in Africa and move them towards the establishment of independent careers at leading research institutions in this Continent.”*



African Career Accelerator fellows Peter Quashie and Yaw Bediako from the university of Ghana, discussing a paper on malaria at the Crick Institute

Managing soil for the whole community

Soil erosion is a widespread problem for rural communities across the Global South, as climate change, population growth, political upheaval, land tenure change and migration put unprecedented pressure on natural resources. Increasing food production while preserving the quality of land for future generations is essential; and reducing soil erosion and improving soil management are a crucial part of enabling this. Complex interlinkages between soil degradation, climate change, and community processes are being explored in a four-year research project focused on rural communities in East Africa.

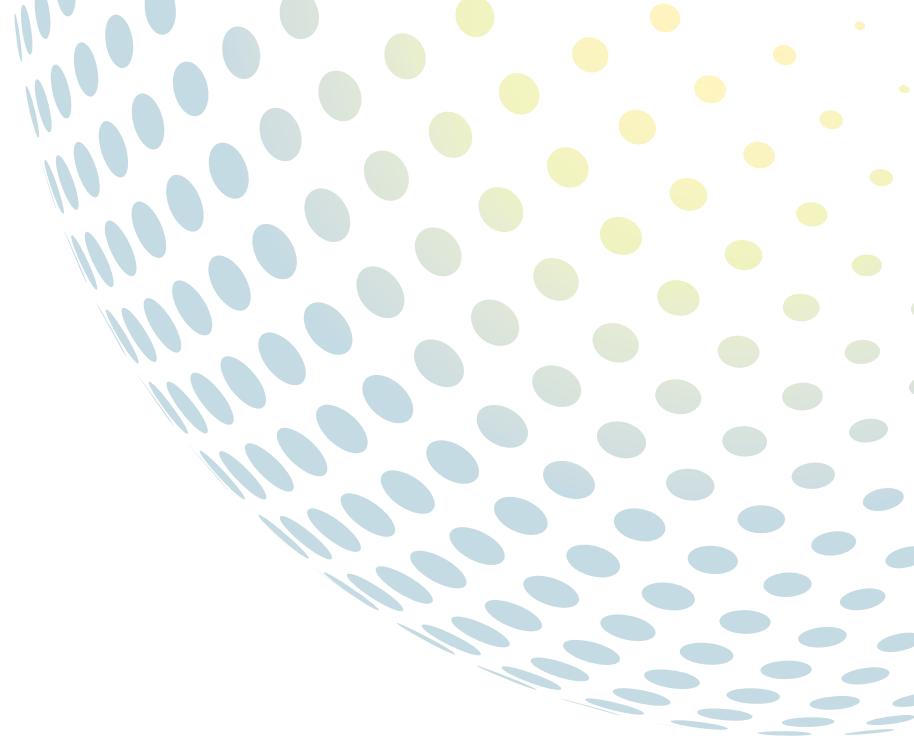
The ultimate aim of the *Jali Ardhi* project (which means ‘care for the land’ in Swahili) is to underpin co-designed soil conservation and restoration strategies. Guided by specialist knowledge, participatory approaches enable practitioners to access new knowledge, develop problem understanding and become local policy makers.

The Nelson Mandela African Institution of Science and Technology, Tanzania, and the International Water Management Institute in Ethiopia are partners in this project.



About GCRF

The Global Challenges Research Fund (GCRF) supports cutting-edge research and innovation that addresses the global issues faced by developing countries. It harnesses the expertise of the UK's world-leading researchers, focusing on: funding challenge-led disciplinary and interdisciplinary research; strengthening capability for research, innovation and knowledge exchange; and providing an agile response to emergencies where there is an urgent research or on-the-ground need. It is a £1.5 billion fund which forms part of the UK Government's Official Development Assistance (ODA) commitment and is overseen by the Department for Business, Energy and Industrial Strategy (BEIS), and delivered through nine delivery partners including UK Research and Innovation (comprising the research councils, Research England and Innovate UK), the UK Academies, the UK Space Agency and other funding bodies.



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